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WHAT IS CLAIMED IS:

1. A method of cooling an ECU for an internal combustion engine, said method comprising the steps of:

introducing water into the engine;

5 passing the introduced water in heat transfer adjacency to at least a first part of the ECU to heat the water and cool the part;

removing the heated water from the vicinity of the part.

2. A method in accordance with claim 1 wherein the engine is a marine engine and the method further comprises the step of inserting a lower unit of the engine into a body of water so that water is introduced into the engine through a lower unit of the engine.

3. A method in accordance with claim 1 further comprising the step of passing the water through the engine in close proximity to and, in heat transfer adjacency with, a fuel pump.

15 4. A method in accordance with claim 1 further comprising the step of generating an ignition current within the ECU and selectively periodically supplying that current to a plurality of ignition coils outside of the ECU.

5. A method in accordance with claim 4 further comprising the step of passing the water through a passageway in heat transfer adjacency to, but electrically isolated from, a portion of the ECU which is generating the ignition current.

6. An ECU for a combustion engine, said ECU comprising:

a heat-producing part;

a water coolant passageway in heat transfer adjacency to said part and adapted to remove heat from the part.

7. An ECU in accordance with claim 6 further comprising a heat-generating electrical circuit within the part in heat transfer adjacency to the water coolant passageway.

8. An ECU in accordance with claim 7 wherein said electrical circuit has a high power portion and a low-power portion, the high power portion is in the first part, and the coolant passageway is in heat transfer adjacency to the high power portion.

9. An ECU in accordance with claim 6 wherein the ECU further comprises a housing and the water passageway is integral with the housing.

10. An ECU in accordance with claim 9 wherein the water passageway is disposed on top of the ECU.

11. An ECU in accordance with claim 9 wherein the water passageway is disposed adjacent one edge of the top of the ECU.

12. An ECU in accordance with claim 6 wherein the water passageway has an inlet connector and an outlet connector, both adapted to receive a water hose.

13. An ECU for a combustion engine, said ECU comprising:

a housing;

electrical input circuits, located within the housing;

electrical control circuits, located within the housing;

electrical fuel injection output drive circuits, located within the housing;

electrical oil pump output drive circuits, located within the housing; and a

portion of the electrical ignition circuit immediately prior to the ignition coils located within the housing, so that the ECU can communicate electrically with the ignition coils .

14. An ECU in accordance with claim 13 further comprising: a water coolant passageway in heat transfer adjacency to at least one of the electrical circuits and adapted to remove heat from such adjacent one of the circuits.

5 15. An ECU in accordance with claim 14 wherein: said adjacent one of the electrical circuits has a high-power portion and one or more of the electrical circuits has a low-power portion, and both the high-power and low-power portions are within the ECU, and the coolant passageway is in heat transfer adjacency to the high-power portion.

10 16. An ECU in accordance with claim 13 wherein the engine is a marine engine operatively controlled by the ECU.

17. An ECU in accordance with claim 16 wherein the engine is an outboard engine.

18. An ECU in accordance with claim 16 wherein the engine is an inboard engine.

15 19. An ECU in accordance with claim 16 wherein the engine is an inboard/outboard engine.

20. An ECU in accordance with claim 16 wherein the marine engine is water-cooled.

20 21. A coolant kit for an ECU of an internal combustion engine comprising:
a water passageway adapted to be placed in heat transfer adjacency to a first part of the ECU and having an inlet and an outlet;

a water inlet conduit adapted to be connected to a source of liquid coolant flowing through the engine and to an inlet of the water passageway and to provide fluid communication therebetween;

a water outlet passageway adapted to be connected to a liquid coolant removal device and to an outlet of the water passageway and to provide fluid communication therebetween, so as to dispose of water exiting the water passageway and to conduct heat away from the ECU.

5 22. A kit in accordance with claim 21 further comprising means for connecting the water passageway to the top of the ECU.

 23. A kit in accordance with claim 21 wherein the water passageway is enclosed in a housing having a rounded portion and a flat portion, the flat portion being adapted to be placed in close contact with a corresponding flat portion of an
10 ECU.

 24. An ECU for an internal combustion engine comprising an ignition circuit adapted to verify firing of the ignition coils.

 25. The ECU of claim 24 wherein the ignition circuit is located within the ECU and the ignition coils are located outside the ECU.

15 26. The ECU of claim 24 further comprising a water passage adjacent a heat generating portion of the ECU for cooling the heat generating portion.

 27. A method of cooling a heat-generating electrical circuit in a motor used for propulsion through water, the method comprising the steps of:

20 (a) diverting through the motor a portion of the water through which the motor is providing propulsion; and

 (b) routing the water in heat transfer communication with the circuitry.

 28. The method of claim 27 wherein the electrical circuit is at least part of an ECU.

29. The method of claim 27 wherein the motor is an internal combustion engine.

30. The method of claim 27 wherein the heat transfer communication includes heat transfer by convection of the diverted water.

5 31. The method of claim 27 wherein the heat transfer communication includes movement of the diverted water by convection.

32. The method of claim 27 wherein the heat transfer communication includes heat transfer by radiation from the circuitry to a body and conduction from the body to the diverted water.

10 33. A motor used for propulsion through water, the motor comprising:

(a) heat-generating circuitry used in the operation of the motor; and

(b) a water passageway in heat transfer communication with the circuitry, the passageway in fluid communication with, and adapted to receive water diverted from, the water through which the engine is providing propulsion.

15 34. The motor of claim 33 wherein the circuitry is at least part of an ECU.

35. The motor of claim 33 wherein the motor is an internal combustion engine.

36. The motor of claim 31 wherein the heat transfer communication includes heat transfer by convection of water through the passageway.

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